

Other modifications may be made to the present invention without departing from the scope of the invention, as noted in the appended claims.

5 I CLAIM:

- Sub 02*
- 10 1. A high efficiency lighting system for maintaining normal lighting conditions by lighting fixtures requiring DC electrical power comprising:
- power control means for receiving AC electrical power from a grid source and delivering required low voltage DC electrical power to said lighting fixtures;
- said power control means converting said AC electrical power to DC electrical power;
- 15 battery means for providing on a standby basis said required DC low voltage electrical power to said power control means;
- said battery means being connected to said power control means for being maintained in a fully charged
- 20 condition by said power control means during normal supply of AC electrical power from said grid source; and
- said power control means delivering said required DC electrical power from said battery means to said
- 25 lighting fixtures during an AC electrical power outage to maintain without interruption normal lighting by said lighting fixtures.
- 30 2. The high efficiency lighting system of Claim 1 having multiple power control means each connected to its own battery means for maintaining the lighting in a building with multiple rooms.

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3. The high efficiency lighting system of Claim 1 having a photovoltaic source of DC electrical power connected to said power control means for reducing the amount of electrical power taken from said grid source.

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4. A high efficiency lighting system for lighting fixtures requiring DC low voltage electrical power comprising:

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10 power control means for receiving AC electrical power from a grid source and delivering required low voltage DC electrical power to said lighting fixtures;

said power control means converting said AC electrical power to DC electrical power;

15 photovoltaic means for delivering DC low voltage electrical power to said power control means;

said power control means reducing the electrical power taken from said grid source by the amount of electrical power supplied by said photovoltaic means.

20 5. The high efficiency lighting system of Claim 4 having battery means for providing on a standby basis said required DC low voltage electrical power to said power control means, said power control means maintaining said battery means in a fully charged
25 condition by electrical power from said grid source, for maintaining without interruption the normal lighting by said lighting fixtures during a power outage.

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6. A high efficiency lighting system for maintaining normal lighting conditions by lighting fixtures requiring DC electrical power comprising:
power control means for receiving AC electrical
5 power from a grid source and delivering required low voltage DC electrical power to said lighting fixtures;
said power control means converting said AC electrical power to DC electrical power.

10 7. The high efficiency lighting system as in Claim 6, further comprising a DC power cogenerator directly coupled to said lighting fixtures through a diode isolator allowing either AC or DC power to operate said lighting fixtures.

15 8. A high efficiency lighting system for maintaining normal lighting conditions by lighting fixtures requiring DC electrical power comprising:
power control means for receiving DC electrical
20 power from a photovoltaic panel and delivering required low voltage DC electrical power to said lighting fixtures;

said power control means controlling charging of a battery means;

25 said battery means providing on a standby basis said required DC low voltage electrical power to said power control means;

said battery means being connected to said power control means for being maintained in a charged
30 condition by said power control means during hours of input from said photovoltaic panel, and

said power control means delivering said required DC electrical power from said battery means to said lighting fixtures during periods of time when power
35 from said photovoltaic panel is not available.

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9. A DC power supply system for DC loads requiring DC electrical power comprising:

power control means for receiving AC electrical power from a grid source and delivering required low voltage DC electrical power to said DC load;

said power control means converting said AC electrical power to DC electrical power;

battery means for providing on a standby basis said required DC low voltage electrical power to said power control means;

said battery means being connected to said power control means for being maintained in a fully charged condition by said power control means during normal supply of AC electrical power from said grid source;

and

said power control means delivering said required DC electrical power from said battery means to said DC load during an AC electrical power outage to maintain without interruption normal operation of the DC load.

10. The DC power supply system of Claim 9 having a photovoltaic source of DC electrical power connected to said power control means for reducing the amount of electrical power taken from said grid source.

11. The DC power supply system of Claim 9 having a cogeneration source of DC electrical power connected to said power control means for reducing the amount of electrical power taken from said grid source.

12. A DC power supply for DC loads requiring DC electrical power comprising:

power control means for receiving AC electrical power from a grid source and delivering required low voltage DC electrical power to said DC load;

said power control means converting said AC electrical power to DC electrical power.

13. A DC power supply system for DC loads requiring DC electrical power comprising:

power control means for receiving DC electrical power from a DC power source and delivering required low voltage DC electrical power to said DC load;

said power control means controlling charging of a battery means;

said battery means providing on a standby basis said required DC low voltage electrical power to said power control means;

said battery means being connected to said power control means for being maintained in a charged condition by said power control means during hours of input from said DC power source, and

said power control means delivering said required DC electrical power from said battery means to said DC load during periods of time when power from said DC power supply is not available.

14. The DC power supply system as in Claim 13 wherein said DC power source is a cogeneration unit.

15. The DC power supply system as in Claim 13 wherein said DC power source is a photovoltaic panel.

16. The DC power supply system as in Claim 9 wherein said DC load is a household appliance.

17. The DC power supply system as in Claim 9
wherein said DC load is a microwave oven.

18. The DC power supply system as in Claim 9
5 wherein said DC load is a heater.

19. The DC power supply system as in Claim 13
wherein said DC load is a household appliance.

10 20. The DC power supply system as in Claim 13
wherein said DC load is a microwave oven.

15 21. The DC power supply system as in Claim 13
wherein said DC load is a heater.

*Add a-4
A 7*
Add B 9
Add C 17
Add P 3

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